

Claims

1. Pusher for scraper chain conveyors, especially of the kind used in underground mining, comprising an upper member (15) and a therewith connectable lower member (16), said two members being connectable by means of a bolted connection, each member of said pusher featuring one part of one or more chain beds (11, 12) through which a flat jointing plane runs, as well as one part of the recesses provided for the bolts (19) of the bolted connection and located to the outside of the chain bed (11, 12), the upper member (15) and the lower member (16) embracing each other at least partially, and the upper member (15) being configured as a bow-like bridge element that wraps over both ends of the lower member from above, the two ends (22) of the bridge-like upper member (15) being of cuneiform shape and having upper and lower guide surfaces (24, 25) sloping towards each other in V-formation, and the upper member (15) and the lower member (16) engaging each other at each end by means of nose-like centering projections (17) on the upper member or the lower member, said projections engaging complementary recesses in the contact surfaces of the lower member (16) or the upper member (15), **characterized in that** supporting surfaces (42) are provided between the upper member (15) and the lower member (16), said supporting surfaces effecting a gap between the upper member and the lower member, at least in the vicinity of the bolted connections (19, 20).
2. Pusher according to claim 1, **characterized in that** the supporting surfaces are formed by protuberances (34) on the upper member and/or the lower member, which protuberances, at least in the vicinity of the bolted connections (19, 20), form a preferably slit-like space (33) between the upper member and the lower member.
3. Pusher according to claim 1 or 2, **characterized in that** the protuberances (34) are provided in the two lateral end portions of the upper member and the lower member.

4. Pusher according to one of the preceding claims, **characterized in that** the preferably slit like space (33) extends over a substantial area between the upper member and the lower member, preferably extending essentially over the entire length of the pusher's jointing plane.
5. Pusher according to one of the preceding claims, **characterized in that** the protuberances (34) are engineered within the area between the bolted connections (19, 20) provided in both lateral end portions.
6. Pusher according to one of the claims 1 to 4, **characterized in that** the protuberances are provided in the vicinity of the centering noses (17).
7. Pusher according to one of the preceding claims, **characterized in that** the protuberances are formed by knuckle-like centering protuberances (30) which are raised in such manner that on tightening of the bolted connections (19, 20), the knuckles (30) abut on the bottom of the complementary recess in the counterpart and the two chain legs (38, 39) are not clamped.
8. Pusher according to one of the preceding claims, **characterized in that** an additional centering knuckle (30) that interacts with a complementary recess (31) is provided at the center of the pusher (10).
9. Pusher according to one of the preceding claims, **characterized in that** the engaging surfaces, or contact surfaces, between the centering nose (17) and the centering recess (26) are formed by the frontal nose surface (35), the two lateral nose surfaces (41) or the surfaces (35) on either side of and bordering on the recess (26).
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10. Pusher according to one of the preceding claims, **characterized in that** the supporting surfaces forming the space (33) are formed by a depression (47) on the bottom of the upper member and/or of the lower member.

11. Pusher according to one of the preceding claims, **characterized in that** the chain link is held by friction and positively within the chain bed (11, 12), there being in this area, i.e. in the jointing plane, a small space between the upper and lower members which permits pretensioning of the two members.
12. Pusher according to one of the preceding claims, **characterized in that** the under-side of the lower member (16) is provided in the vicinity of its ends with recesses (33) that create a space between each end of the lower member and the base plate (4) of the conveyor.
13. The pusher of claim 12, **characterized in that** the recessed surface of the lower member is flush with the lower surface of the wrap-over ends (22) of the upper member (15).